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<110> Prayaga, Sudhirdas K
Taupier Jr, Raymond J
Bandaru, Raj

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Met Ala Asp Lys Pro Asp Ile Gly Glu Ile Ala Ser Phe Asn Lys Ala
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Lys Leu Lys Lys Thr Glu Met Gln Glu Asn Thr Leu Leu Thr Lys Glu
20 25 30

gcc att gag cag gag aag cgg gtg aaa ttt cct aag agc ctg gag gat 204
Ala Ile Glu Gln Glu Lys Arg Val Lys Phe Pro Lys Ser Leu Glu Asp
35 40 45

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Ser Leu Pro Leu Ser Ser Ser Arg Pro Gln
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caccacaaga tggacacaag ccacaaactg tgacgtgaac ctgggcactc cgtgctgatg 314

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Ala Ile Glu Gln Glu Lys Arg Val Lys Phe Pro Lys Ser Leu Glu Asp
35 40 45

Ser Leu Pro Leu Ser Ser Ser Arg Pro Gln
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<213> Homo sapiens

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Tyr Pro Ala His Gly Trp Asp Ser Ile Asn Glu Val Asp Glu Ser Phe
     50                  55                  60

Gln Pro Ile His Thr Tyr Gln Val Cys Asn Val Met Ser Pro Asn Gln
 65                  70                  75                  80

Asn Asn Trp Leu Arg Thr Ser Trp Val Pro Arg Asp Gly Ala Arg Arg
                 85                  90                  95

Val Tyr Ala Glu Ile Lys Phe Thr Leu Arg Asp Cys Asn Ser Met Pro
            100                 105                 110

Gly Val Leu Gly Thr Cys Lys Glu Thr Phe Asn Leu Tyr Tyr Leu Glu
        115                 120                 125

Ser Asp Arg Asp Leu Gly Ala Ser Thr Gln Glu Ser Gln Phe Leu Lys
    130                 135                 140

Ile Asp Thr Ile Ala Ala Asp Glu Ser Phe Thr Gly Ala Asp Leu Gly
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Val Arg Arg Leu Lys Leu Asn Thr Glu Val Arg Ser Val Gly Pro Leu
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Ser Lys Arg Gly Phe Tyr Leu Ala Phe Gln Asp Ile Gly Ala Cys Leu
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Ala Ile Leu Ser Leu Arg Ile Tyr Tyr Lys Lys Cys Pro Ala Met Val
        195                 200                 205

Arg Asn Leu Ala Ala Phe Ser Glu Ala Val Thr Gly Ala Asp Ser Ser
    210                 215                 220

Ser Leu Val Glu Val Arg Gly Gln Cys Val Arg His Ser Glu Glu Arg
225                 230                 235                 240

Asp Thr Pro Lys Met Tyr Cys Ser Ala Glu Gly Glu Trp Leu Val Pro
                245                 250                 255

Ile Gly Lys Cys Val Cys Ser Ala Gly Tyr Glu Glu Arg Arg Asp Ala
            260                 265                 270

Cys Val Ala Cys Glu Leu Gly Phe Tyr Lys Ser Ala Pro Gly Asp Gln
        275                 280                 285

Leu Cys Ala Arg Cys Pro Pro His Ser His Ser Ala Ala Pro Ala Ala
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Gln Ala Cys His Cys Asp Leu Ser Tyr Tyr Arg Ala Ala Leu Asp Pro
305                 310                 315                 320

Pro Ser Ser Ala Cys Thr Arg Pro Pro Ser Ala Pro Val Asn Leu Ile
                325                 330                 335

Ser Ser Val Asn Gly Thr Ser Val Thr Leu Glu Trp Ala Pro Pro Leu
            340                 345                 350

Asp Pro Gly Gly Arg Ser Asp Ile Thr Tyr Asn Ala Val Cys Arg Arg
        355                 360                 365

Cys Pro Trp Ala Leu Ser Arg Cys Glu Ala Cys Gly Ser Gly Thr Arg
    370                 375                 380

Phe Val Pro Gln Gln Thr Ser Leu Val Gln Ala Ser Leu Leu Val Ala
385                 390                 395                 400

Asn Leu Leu Ala His Met Asn Tyr Ser Phe Trp Ile Glu Ala Val Asn
                405                 410                 415

Gly Val Ser Asp Leu Ser Pro Glu Pro Arg Arg Ala Ala Val Val Asn
            420                 425                 430

Ile Thr Thr Asn Gln Ala Ala Pro Ser Gln Val Val Val Ile Arg Gln
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Glu Arg Ala Gly Gln Thr Ser Val Ser Leu Leu Trp Gln Glu Pro Glu
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Gln Pro Asn Gly Ile Ile Leu Glu Tyr Glu Ile Lys Tyr Tyr Glu Lys
465                 470                 475                 480

Asp Lys Glu Met Gln Ser Tyr Ser Thr Leu Lys Ala Val Thr Thr Arg
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Ala Thr Val Ser Gly Leu Lys Pro Gly Thr Arg Tyr Val Phe Gln Val
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Trp Ile Cys Leu Thr Leu Ile Thr Gly Leu Val Val Leu Leu Leu Leu
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Leu Ile Cys Lys Lys Arg His Cys Gly Tyr Ser Lys Ala Phe Gln Asp
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Ser Asp Glu Glu Lys Met His Tyr Gln Asn Gly Gln Ala Pro Pro Pro
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Val Phe Leu Pro Leu His His Pro Pro Gly Lys Leu Pro Glu Pro Gln
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Phe Tyr Ala Glu Pro His Thr Tyr Glu Glu Pro Gly Arg Ala Gly Arg
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Ser Phe Thr Arg Glu Ile Glu Ala Ser Arg Ile His Ile Glu Lys Ile
625                 630                 635                 640

Ile Gly Ser Gly Asp Ser Gly Glu Val Cys Tyr Gly Arg Leu Arg Val
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Pro Gly Gln Arg Asp Val Pro Val Ala Ile Lys Ala Leu Lys Ala Gly
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Tyr Thr Glu Arg Gln Arg Arg Asp Phe Leu Ser Glu Ala Ser Ile Met
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Gly Gln Phe Asp His Pro Asn Ile Ile Arg Leu Glu Gly Val Val Thr
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Arg Gly Arg Leu Ala Met Ile Val Thr Glu Tyr Met Glu Asn Gly Ser
705                 710                 715                 720

Leu Asp Thr Phe Leu Arg Thr His Asp Gly Gln Phe Thr Ile Met Gln
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Leu Val Gly Met Leu Arg Gly Val Gly Ala Gly Met Arg Tyr Leu Ser
            740                 745                 750

Asp Leu Gly Tyr Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val
        755                 760                 765

Asp Ser Asn Leu Val Cys Lys Val Ser Asp Phe Gly Leu Ser Arg Val
    770                 775                 780

Leu Glu Asp Asp Pro Asp Ala Ala Tyr Thr Thr Thr Gly Gly Lys Ile
785                 790                 795                 800

Pro Ile Arg Trp Thr Ala Pro Glu Ala Ile Ala Phe Arg Thr Phe Ser
                805                 810                 815

Ser Ala Ser Asp Val Trp Ser Phe Gly Val Val Met Trp Glu Val Leu
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Ala Tyr Gly Glu Arg Pro Tyr Trp Asn Met Thr Asn Arg Asp Val Ile
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Ser Ser Val Glu Glu Gly Tyr Arg Leu Pro Ala Pro Met Gly Cys Pro
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His Ala Leu His Gln Leu Met Leu Asp Cys Trp His Lys Asp Arg Ala
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Gln Arg Pro Arg Phe Ser Gln Ile Val Ser Val Leu Asp Ala Leu Ile
                885                 890                 895

Arg Ser Pro Glu Ser Leu Arg Ala Thr Ala Thr Val Ser Arg Cys Pro
            900                 905                 910

Pro Pro Ala Phe Val Arg Ser Cys Phe Asp Leu Arg Gly Gly Ser Gly
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Gly Gly Gly Gly Leu Thr Val Gly Asp Trp Leu Asp Ser Ile Arg Met
    930                 935                 940

Gly Arg Tyr Arg Asp His Phe Ala Ala Gly Gly Tyr Ser Ser Leu Gly
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Met Val Leu Arg Met Asn Ala Gln Asp Val Arg Ala Leu Gly Ile Thr
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<212> DNA
<213> Homo sapiens

<400> 6

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<213> Homo sapiens

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35 40 45

Ile Asp Ser Thr Thr Cys Pro Ser Val Cys Arg Cys Asp Asn Gly Phe
50 55 60

Ile Tyr Cys Asn Asp Arg Gly Leu Thr Ser Ile Pro Ala Asp Ile Pro
65 70 75 80

Asp Asp Ala Thr Thr Leu Tyr Leu Gln Asn Asn Gln Ile Asn Asn Ala
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Gly Ile Pro Gln Asp Leu Lys Thr Lys Val Asn Val Gln Val Ile Tyr
100 105 110

Leu Tyr Glu Asn Asp Leu Asp Glu Phe Pro Ile Asn Leu Pro Arg Ser
115 120 125

Leu Arg Glu Leu His Leu Gln Asp Asn Asn Val Arg Thr Ile Ala Arg
130 135 140

Asp Ser Leu Ala Arg Ile Pro Leu Leu Glu Lys Leu His Leu Asp Asp
145 150 155 160

Asn Ser Val Ser Thr Val Ser Ile Glu Glu Asp Ala Phe Ala Asp Ser
165 170 175

Lys Gln Leu Lys Leu Leu Phe Leu Ser Arg Asn His Leu Ser Ser Ile
180 185 190

Pro Ser Gly Leu Pro His Thr Leu Glu Glu Leu Arg Leu Asp Asp Asn
195 200 205

Arg Ile Ser Thr Ile Pro Leu His Ala Phe Lys Gly Leu Asn Ser Leu
210 215 220

Arg Arg Leu Val Leu Asp Gly Asn Leu Leu Ala Asn Gln Arg Ile Ala
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Asp Asp Thr Phe Ser Arg Leu Gln Asn Leu Thr Glu Leu Ser Leu Val

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Arg Asn Ser Leu Ala Ala Pro Pro Leu Asn Leu Pro Ser Ala His Leu
            260                 265                 270

Gln Lys Leu Tyr Leu Gln Asp Asn Ala Ile Ser His Ile Pro Tyr Asn
        275                 280                 285

Thr Leu Ala Lys Met Arg Glu Leu Glu Arg Leu Asp Leu Ser Asn Asn
    290                 295                 300

Asn Leu Thr Thr Leu Pro Arg Gly Leu Phe Asp Asp Leu Gly Asn Leu
305                 310                 315                 320

Ala Gln Leu Leu Leu Arg Asn Asn Pro Trp Phe Cys Gly Cys Asn Leu
                325                 330                 335

Met Trp Leu Arg Asp Trp Val Lys Ala Arg Ala Ala Val Val Asn Val
            340                 345                 350

Arg Gly Leu Met Cys Gln Gly Pro Glu Lys Val Arg Gly Met Ala Ile
        355                 360                 365

Lys Asp Ile Thr Ser Glu Met Asp Glu Cys Phe Glu Thr Gly Pro Gln
    370                 375                 380

Gly Gly Val Ala Asn Ala Ala Ala Lys Thr Thr Ala Ser Asn His Ala
385                 390                 395                 400

Ser Ala Thr Thr Pro Gln Gly Ser Leu Phe Thr Leu Lys Ala Lys Arg
                405                 410                 415

Pro Gly Leu Arg Leu Pro Asp Ser Asn Ile Asp Tyr Pro Met Ala Thr
            420                 425                 430

Gly Asp Gly Ala Lys Thr Leu Ala Ile His Val Lys Ala Leu Thr Ala
        435                 440                 445

Asp Ser Ile Arg Ile Thr Trp Lys Ala Thr Leu Pro Ala Ser Ser Phe
    450                 455                 460

Arg Leu Ser Trp Leu Arg Leu Gly His Ser Pro Ala Val Gly Ser Ile
465                 470                 475                 480

Thr Glu Thr Leu Val Gln Gly Asp Lys Thr Glu Tyr Leu Leu Thr Ala
                485                 490                 495

Leu Glu Pro Lys Ser Thr Tyr Ile Ile Cys Met Val Thr Met Glu Thr
            500                 505                 510

Ser Asn Ala Tyr Val Ala Asp Glu Thr Pro Val Cys Ala Lys Ala Glu
        515                 520                 525

Thr Ala Asp Ser Tyr Gly Pro Thr Thr Thr Leu Asn Gln Glu Gln Asn
    530                 535                 540

Ala Gly Pro Met Ala Ser Leu Pro Leu Ala Gly Ile Ile Gly Gly Ala
545                 550                 555                 560

Val Ala Leu Val Phe Leu Phe Leu Val Leu Gly Ala Ile Cys Trp Tyr
                565                 570                 575

Val His Gln Ala Gly Glu Leu Leu Thr Arg Glu Arg Ala Tyr Asn Arg
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580 585 590

Gly Ser Arg Lys Lys Asp Asp Tyr Met Glu Ser Gly Thr Lys Lys Asp
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Asn Pro Tyr Arg Ala Lys Glu Glu Tyr Val Val His Thr Ile Phe Pro
625 630 635 640

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660 665 670

Tyr Thr

<210> 8
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag190 Forward
PCR Primer Sequence

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<210> 9
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
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PCR Primer Sequence

<400> 9
caagccacaa actgtgacgt gaacctg 27

<210> 10
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ag190 Reverse
PCR Primer Sequence

<400> 10
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<210> 11
<211> 20
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<213> Artificial Sequence

<220>
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PCR Primer Sequence

<400> 11
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<210> 12
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PCR Primer Sequence

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<210> 13
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PCR Primer Sequence

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PCR Primer Sequence

<400> 14
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<210> 15
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV2 Reverse
PCR Primer Sequence

<400> 15
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<210> 16

<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV2 S1 PCR
Primer Sequence

<400> 16
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<210> 17
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: NOV2 S2 PCR
Primer Sequence

<400> 17
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<210> 18
<211> 19
<212> DNA
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Primer Sequence

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<210> 19
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<212> DNA
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<220>
<223> Description of Artificial Sequence: NOV2 S4 PCR
Primer Sequence

<400> 19
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<210> 20
<211> 18
<212> DNA
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<220>
<223> Description of Artificial Sequence: NOV2 S5 PCR
Primer Sequence

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<210> 21
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<212> DNA
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<220>
<223> Description of Artificial Sequence: NOV2 S6 PCR Primer Sequence

<400> 21
gcggccacct gggtccag 18

<210> 22
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV2 S7 PCR Primer Sequence

<400> 22
cccgagcagc cgaacggc 18

<210> 23
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV2 S8 PCR Primer Sequence

<400> 23
gccgttcggc tgctcggg 18

<210> 24
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 Forward PCR Primer Sequence

<400> 24
ggatccacca cctgcccctc ggtgtgc 27

<210> 25
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 Reverse PCR Primer Sequence

<400> 25

ctcgaggcca gcgttctgct cctggttgag tgtgg 35

<210> 26
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 S1 PCR Primer Sequence

<400> 26
cgcaccattg ccagggac 18

<210> 27
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 S2 PCR Primer Sequence

<400> 27
gtccctggca atggtgcg 18

<210> 28
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 S3 PCR Primer Sequence

<400> 28
ctggtgcgca attcgctggc c 21

<210> 29
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 S4 PCR Primer Sequence

<400> 29
ggccagcgaa ttgcgcacca g 21

<210> 30
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 S5 PCR Primer Sequence

<400> 30
cacgcctctg ccaccacg 18

<210> 31
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NOV3 S6 PCR Primer Sequence

<400> 31
cgtggtggca gaggcgtg 18

<210> 32
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pSec-V5 His Forward Oligonucleotide Primer Sequence

<400> 32
ctcgtcctcg agggtaagcc tatccctaac 30

<210> 33
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pSec-V5 His Reverse Oligonucleotide Primer Sequence

<400> 33
ctcgtcgggc ccctgatcag cgggtttaaa c 31

<210> 34
<211> 40
<212> PRT
<213> Homo sapiens

<400> 34
Met Ala Asp Lys Pro Asp Met Gly Glu Ile Ala Ser Phe Asp Lys Ala
1 5 10 15

Lys Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys
20 25 30

Glu Thr Ile Glu Gln Glu Lys Arg
35 40

<210> 35
<211> 10
<212> PRT

<213> Homo sapiens

<400> 35
Lys Leu Lys Lys Thr Glu Thr Gln Glu Asn
1 5 10

<210> 36
<211> 38
<212> PRT
<213> Homo sapiens

<400> 36
Ala Asp Lys Pro Asp Met Gly Glu Ile Ala Ser Phe Asp Lys Ala Lys
1 5 10 15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys Glu
20 25 30

Thr Ile Glu Gln Glu Lys
35

<210> 37
<211> 40
<212> PRT
<213> Bos taurus

<400> 37
Ala Asp Lys Pro Asp Leu Gly Glu Ile Asn Ser Phe Asp Lys Ala Lys
1 5 10 15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys Glu
20 25 30

Thr Ile Glu Gln Glu Lys Gln Ala
35 40

<210> 38
<211> 40
<212> PRT
<213> Sus scrofa

<400> 38
Ala Asp Lys Pro Asp Met Gly Glu Ile Asn Ser Phe Asp Lys Ala Lys
1 5 10 15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys Glu
20 25 30

Thr Ile Glu Gln Glu Lys Gln Ala
35 40

<210> 39
<211> 40
<212> PRT
<213> Homo sapiens

<400> 39
Ser Asp Lys Pro Asp Met Ala Glu Ile Glu Lys Phe Asp Lys Ser Lys
1 5 10 15

```
Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys Glu
            20                  25                  30

Thr Ile Glu Gln Glu Lys Gln Ala
        35                  40
```

<210> 40
<211> 41
<212> PRT
<213> Mus musculus

<400> 40

```
Met Ser Asp Lys Pro Asp Met Ala Glu Ile Glu Lys Phe Asp Lys Ser
  1               5                  10                  15

Lys Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys
            20                  25                  30

Glu Thr Ile Glu Gln Glu Lys Gln Ala
        35                  40
```

<210> 41
<211> 40
<212> PRT
<213> Oryctolagus cuniculus

<400> 41

```
Ala Asp Lys Pro Asp Met Ala Glu Ile Glu Lys Phe Asp Lys Ser Lys
  1               5                  10                  15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys Glu
            20                  25                  30

Thr Ile Glu Gln Glu Lys Gln Ala
        35                  40
```

<210> 42
<211> 39
<212> PRT
<213> Xenopus laevis

<400> 42

```
Ser Asp Lys Pro Asp Met Ala Glu Ile Glu Lys Phe Asp Lys Ala Lys
  1               5                  10                  15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys Glu
            20                  25                  30

Thr Ile Glu Gln Glu Lys Gln
        35
```

<210> 43
<211> 40
<212> PRT
<213> Homo sapiens

<400> 43

```
Ser Asp Lys Pro Gly Met Ala Glu Ile Glu Lys Phe Asp Lys Ser Lys
```

```
  1               5                  10                  15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Ser Ser Lys Glu
             20                  25                  30

Thr Ile Glu Gln Glu Arg Gln Ala
         35                  40


<210> 44
<211> 40
<212> PRT
<213> Oncorhynchus mykiss

<400> 44
Ser Asp Lys Pro Asn Leu Glu Glu Val Ala Ser Phe Asp Lys Thr Lys
  1               5                  10                  15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Thr Lys Glu
             20                  25                  30

Thr Ile Glu Gln Glu Lys Gln Ala
         35                  40


<210> 45
<211> 40
<212> PRT
<213> Oncorhynchus mykiss

<400> 45
Ser Asp Lys Pro Asp Leu Ala Glu Val Ser Asn Phe Asp Lys Thr Lys
  1               5                  10                  15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Thr Lys Glu
             20                  25                  30

Thr Ile Glu Gln Glu Lys Gln Ala
         35                  40


<210> 46
<211> 40
<212> PRT
<213> Lateolabrax japonicus

<400> 46
Ser Asp Lys Pro Asp Ile Ser Glu Val Thr Ser Phe Asp Lys Thr Lys
  1               5                  10                  15

Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys Glu
             20                  25                  30

Thr Ile Glu Gln Glu Lys Ala Ala
         35                  40


<210> 47
<211> 39
<212> PRT
<213> Rattus norvegicus

<400> 47
```

```
Met Ser Asp Lys Pro Asp Leu Ser Glu Val Glu Thr Phe Asp Lys Ser
  1               5                  10                  15

Lys Leu Lys Lys Thr Asn Thr Glu Glu Lys Asn Thr Leu Pro Ser Lys
             20                  25                  30

Glu Thr Ile Gln Gln Glu Lys
         35
```

<210> 48
<211> 38
<212> PRT
<213> Homo sapiens

<400> 48

```
Ser Asp Lys Pro Asp Leu Ser Glu Val Glu Lys Phe Asp Arg Ser Lys
  1               5                  10                  15

Leu Lys Lys Thr Asn Thr Glu Glu Lys Asn Thr Leu Pro Ser Lys Glu
             20                  25                  30

Thr Ile Gln Gln Glu Lys
         35
```

<210> 49
<211> 35
<212> PRT
<213> Drosophila melanogaster

<400> 49

```
Ile Ala Gly Ile Glu Asn Phe Asp Ala Lys Lys Leu Lys His Thr Glu
  1               5                  10                  15

Thr Asn Glu Lys Asn Val Leu Pro Thr Lys Glu Val Ile Glu Ala Glu
             20                  25                  30

Lys Gln Ala
         35
```

<210> 50
<211> 31
<212> PRT
<213> Drosophila melanogaster

<400> 50

```
Gly Ile Thr Ala Phe Asn Gln Asn Asn Leu Lys His Thr Glu Thr Asn
  1               5                  10                  15

Glu Lys Asn Pro Leu Pro Asp Lys Glu Ala Ile Glu Gln Glu Lys
             20                  25                  30
```

<210> 51
<211> 38
<212> PRT
<213> Homo sapiens

<400> 51

```
Ala Asp Lys Pro Asp Met Gly Glu Ile Ala Ser Phe Asp Lys Ala Lys
  1               5                  10                  15
```

```
Leu Lys Lys Thr Glu Thr Gln Glu Lys Asn Thr Leu Pro Thr Lys Glu
            20                  25                  30

Thr Ile Glu Gln Glu Lys
        35
```

<210> 52
<211> 991
<212> PRT
<213> Mus musculus

<400> 52

```
Met Ala Pro Ala Arg Ala Arg Leu Ser Pro Ala Leu Trp Val Val Thr
  1               5                  10                  15

Ala Ala Ala Ala Ala Thr Cys Val Ser Ala Gly Arg Gly Glu Val Asn
            20                  25                  30

Leu Leu Asp Thr Ser Thr Ile His Gly Asp Trp Gly Trp Leu Thr Tyr
        35                  40                  45

Pro Ala His Gly Trp Asp Ser Ile Asn Glu Val Asp Glu Ser Phe Arg
    50                  55                  60

Pro Ile His Thr Tyr Gln Val Cys Asn Val Met Ser Pro Asn Gln Asn
65                  70                  75                  80

Asn Trp Leu Arg Thr Asn Trp Val Pro Arg Asp Gly Ala Arg Arg Val
                85                  90                  95

Tyr Ala Glu Ile Lys Phe Thr Leu Arg Asp Cys Asn Ser Ile Pro Gly
            100                 105                 110

Val Leu Gly Thr Cys Lys Glu Thr Phe Asn Leu His Tyr Leu Glu Ser
        115                 120                 125

Asp Arg Asp Leu Gly Ala Ser Thr Gln Glu Ser Gln Phe Leu Lys Ile
    130                 135                 140

Asp Thr Ile Ala Ala Asp Glu Ser Phe Thr Gly Ala Asp Leu Gly Val
145                 150                 155                 160

Arg Arg Leu Lys Leu Asn Thr Glu Val Arg Gly Val Gly Pro Leu Ser
                165                 170                 175

Lys Arg Gly Phe Tyr Leu Ala Phe Gln Asp Ile Gly Ala Cys Leu Ala
            180                 185                 190

Ile Leu Ser Leu Arg Ile Tyr Tyr Lys Lys Cys Pro Ala Met Val Arg
        195                 200                 205

Asn Leu Ala Ala Phe Ser Glu Ala Val Thr Gly Ala Asp Ser Ser Ser
    210                 215                 220

Leu Val Glu Val Arg Gly Gln Cys Val Arg His Ser Glu Glu Arg Asp
225                 230                 235                 240

Thr Pro Lys Met Tyr Cys Ser Ala Glu Gly Glu Trp Leu Val Pro Ile
                245                 250                 255

Gly Lys Cys Val Cys Ser Ala Gly Tyr Glu Glu Arg Arg Asp Ala Cys
```

```
            260                 265                 270

Met Ala Cys Glu Leu Gly Phe Tyr Lys Ser Ala Pro Gly Asp Gln Leu
        275                 280                 285

Cys Ala Arg Cys Pro Pro His Ser His Ser Ala Thr Pro Ala Ala Gln
    290                 295                 300

Thr Cys Arg Cys Asp Leu Ser Tyr Tyr Arg Ala Ala Leu Asp Pro Pro
305                 310                 315                 320

Ser Ala Ala Cys Thr Arg Pro Pro Ser Ala Pro Val Asn Leu Ile Ser
                325                 330                 335

Ser Val Asn Gly Thr Ser Val Thr Leu Glu Trp Ala Pro Pro Leu Asp
            340                 345                 350

Pro Gly Gly Arg Ser Asp Ile Thr Tyr Asn Ala Val Cys Arg Arg Cys
        355                 360                 365

Pro Trp Ala Leu Ser His Cys Glu Ala Cys Gly Ser Gly Thr Arg Phe
    370                 375                 380

Val Pro Gln Gln Thr Ser Leu Ala Gln Ala Ser Leu Leu Val Ala Asn
385                 390                 395                 400

Leu Leu Ala His Met Asn Tyr Ser Phe Trp Ile Glu Ala Val Asn Gly
                405                 410                 415

Val Ser Asn Leu Ser Pro Glu Pro Arg Ser Ala Ala Val Val Asn Ile
            420                 425                 430

Thr Thr Asn Gln Ala Ala Pro Ser Gln Val Val Val Ile Arg Gln Glu
        435                 440                 445

Arg Ala Gly Gln Thr Ser Val Ser Leu Leu Trp Gln Glu Pro Glu Gln
    450                 455                 460

Pro Asn Gly Ile Ile Leu Glu Tyr Glu Ile Lys Tyr Tyr Glu Lys Asp
465                 470                 475                 480

Lys Glu Met Gln Ser Tyr Ser Thr Leu Lys Ala Val Thr Thr Arg Ala
                485                 490                 495

Thr Val Ser Gly Leu Lys Pro Gly Thr Arg Tyr Val Phe Gln Val Arg
            500                 505                 510

Ala Arg Thr Ser Ala Gly Cys Gly Arg Phe Ser Gln Ala Met Glu Val
        515                 520                 525

Glu Thr Gly Lys Pro Arg Pro Arg Tyr Asp Thr Arg Thr Ile Val Trp
    530                 535                 540

Ile Cys Leu Thr Leu Ile Thr Gly Leu Val Val Leu Leu Leu Leu Leu
545                 550                 555                 560

Ile Cys Lys Lys Arg His Cys Gly Tyr Ser Lys Ala Phe Gln Asp Ser
                565                 570                 575

Asp Glu Glu Lys Met His Tyr Gln Asn Gly Gln Ala Pro Pro Pro Val
            580                 585                 590

Phe Leu Pro Leu Asn His Pro Pro Gly Lys Phe Pro Glu Thr Gln Phe
```

595 600 605

Ser Ala Glu Pro His Thr Tyr Glu Glu Pro Gly Arg Ala Gly Arg Ser
610 615 620

Phe Thr Arg Glu Ile Glu Ala Ser Arg Ile His Ile Glu Lys Ile Ile
625 630 635 640

Gly Ser Gly Glu Ser Gly Glu Val Cys Tyr Gly Arg Leu Gln Val Pro
645 650 655

Gly Gln Arg Asp Val Pro Val Ala Ile Lys Ala Leu Lys Ala Gly Tyr
660 665 670

Thr Glu Arg Gln Arg Gln Asp Phe Leu Ser Glu Ala Ala Ile Met Gly
675 680 685

Gln Phe Asp His Pro Asn Ile Ile Arg Leu Glu Gly Val Val Thr Arg
690 695 700

Gly Arg Leu Ala Met Ile Val Thr Glu Tyr Met Glu Asn Gly Ser Leu
705 710 715 720

Asp Ala Phe Leu Arg Thr His Asp Gly Gln Phe Thr Ile Val Gln Leu
725 730 735

Val Gly Met Leu Arg Gly Val Gly Ala Gly Met Arg Tyr Leu Ser Asp
740 745 750

Leu Gly Tyr Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Asp
755 760 765

Gly Arg Leu Val Cys Lys Val Ser Asp Phe Gly Leu Ser Arg Ala Leu
770 775 780

Glu Asp Asp Pro Glu Ala Ala Tyr Thr Thr Ala Gly Gly Lys Ile Pro
785 790 795 800

Ile Arg Trp Thr Ala Pro Glu Ala Ile Ala Phe Arg Thr Phe Ser Ser
805 810 815

Ala Ser Asp Val Trp Ser Phe Gly Val Val Met Trp Glu Val Leu Ala
820 825 830

Tyr Gly Glu Arg Pro Tyr Trp Asn Met Thr Asn Gln Asp Val Ile Ser
835 840 845

Ser Val Glu Glu Gly Tyr Arg Leu Pro Ala Pro Met Gly Cys Pro Arg
850 855 860

Ala Leu His Gln Leu Met Leu Asp Cys Trp His Lys Asp Arg Ala Gln
865 870 875 880

Arg Pro Arg Phe Ala His Val Val Ser Val Leu Asp Ala Leu Val His
885 890 895

Ser Pro Glu Ser Leu Arg Ala Thr Ala Thr Val Ser Arg Cys Pro Pro
900 905 910

Pro Ala Phe Ala Arg Ser Cys Phe Asp Leu Arg Ala Gly Gly Ser Gly
915 920 925

Asn Gly Asp Leu Thr Val Gly Asp Trp Leu Asp Ser Ile Arg Met Gly

```
    930                 935                 940

Arg Tyr Arg Asp His Phe Ala Ala Gly Gly Tyr Ser Ser Leu Gly Met
945                 950                 955                 960

Val Leu Arg Met Asn Ala Gln Asp Val Arg Ala Leu Gly Ile Thr Leu
                965                 970                 975

Met Gly His Gln Lys Lys Ile Leu Gly Ser Ile Gln Thr Met Arg
            980                 985                 990
```

<210> 53
<211> 992
<212> PRT
<213> Homo sapiens

<400> 53

```
Met Ala Pro Ala Arg Gly Arg Leu Pro Pro Ala Leu Trp Val Val Thr
  1               5                  10                  15

Ala Ala Ala Ala Ala Ala Thr Cys Val Ser Ala Ala Arg Gly Glu Val
             20                  25                  30

Asn Leu Leu Asp Thr Ser Thr Ile His Gly Asp Trp Gly Trp Leu Thr
         35                  40                  45

Tyr Pro Ala His Gly Trp Asp Ser Ile Asn Glu Val Asp Glu Ser Phe
     50                  55                  60

Gln Pro Ile His Thr Tyr Gln Val Cys Asn Val Met Ser Pro Asn Gln
 65                  70                  75                  80

Asn Asn Trp Leu Arg Thr Ser Trp Val Pro Arg Asp Gly Ala Arg Arg
                 85                  90                  95

Val Tyr Ala Glu Ile Lys Phe Thr Leu Arg Asp Cys Asn Ser Met Pro
            100                 105                 110

Gly Val Leu Gly Thr Cys Lys Glu Thr Phe Asn Leu Tyr Tyr Leu Glu
        115                 120                 125

Ser Asp Arg Asp Leu Gly Ala Ser Thr Gln Glu Ser Gln Phe Leu Lys
    130                 135                 140

Ile Asp Thr Ile Ala Ala Asp Glu Ser Phe Thr Gly Ala Asp Leu Gly
145                 150                 155                 160

Val Arg Arg Leu Lys Leu Asn Thr Glu Val Arg Ser Val Gly Pro Leu
                165                 170                 175

Ser Lys Arg Gly Phe Tyr Leu Ala Phe Gln Asp Ile Gly Ala Cys Leu
            180                 185                 190

Ala Ile Leu Ser Leu Arg Ile Tyr Tyr Lys Lys Cys Pro Ala Met Val
        195                 200                 205

Arg Asn Leu Ala Ala Phe Ser Glu Ala Val Thr Gly Ala Asp Ser Ser
    210                 215                 220

Ser Leu Val Glu Val Arg Gly Gln Cys Val Arg His Ser Glu Glu Arg
225                 230                 235                 240
```

```
Asp Thr Pro Lys Met Tyr Cys Ser Ala Glu Gly Glu Trp Leu Val Pro
                245                 250                 255

Ile Gly Lys Cys Val Cys Ser Ala Gly Tyr Glu Glu Arg Arg Asp Ala
            260                 265                 270

Cys Val Ala Cys Glu Leu Gly Phe Tyr Lys Ser Ala Pro Gly Asp Gln
        275                 280                 285

Leu Cys Ala Arg Cys Pro Pro His Ser His Ser Ala Ala Pro Ala Ala
    290                 295                 300

Gln Ala Cys His Cys Asp Leu Ser Tyr Tyr Arg Ala Ala Leu Asp Pro
305                 310                 315                 320

Pro Ser Ser Ala Cys Thr Arg Pro Pro Ser Ala Pro Val Asn Leu Ile
                325                 330                 335

Ser Ser Val Asn Gly Thr Ser Val Thr Leu Glu Trp Ala Pro Pro Leu
            340                 345                 350

Asp Pro Gly Gly Arg Ser Asp Ile Thr Tyr Asn Ala Val Cys Arg Arg
        355                 360                 365

Cys Pro Trp Ala Leu Ser Arg Cys Glu Ala Cys Gly Ser Gly Thr Arg
    370                 375                 380

Phe Val Pro Gln Gln Thr Ser Leu Val Gln Ala Ser Leu Leu Val Ala
385                 390                 395                 400

Asn Leu Leu Ala His Met Asn Tyr Ser Phe Trp Ile Glu Ala Val Asn
                405                 410                 415

Gly Val Ser Asp Leu Ser Pro Glu Pro Arg Arg Ala Ala Val Val Asn
            420                 425                 430

Ile Thr Thr Asn Gln Ala Ala Pro Ser Gln Val Val Val Ile Arg Gln
        435                 440                 445

Glu Arg Ala Gly Gln Thr Ser Val Ser Leu Leu Trp Gln Glu Pro Glu
    450                 455                 460

Gln Pro Asn Gly Ile Ile Leu Glu Tyr Glu Ile Lys Tyr Tyr Glu Lys
465                 470                 475                 480

Asp Lys Glu Met Gln Ser Tyr Ser Thr Leu Lys Ala Val Thr Thr Arg
                485                 490                 495

Ala Thr Val Ser Gly Leu Lys Pro Gly Thr Arg Tyr Val Phe Gln Val
            500                 505                 510

Arg Ala Arg Thr Ser Ala Gly Cys Gly Arg Phe Ser Gln Ala Met Glu
        515                 520                 525

Val Glu Thr Gly Lys Pro Arg Pro Arg Tyr Asp Thr Arg Thr Ile Val
    530                 535                 540

Trp Ile Cys Leu Thr Leu Ile Thr Gly Leu Val Val Leu Leu Leu Leu
545                 550                 555                 560

Leu Ile Cys Lys Lys Arg His Cys Gly Tyr Ser Lys Ala Phe Gln Asp
                565                 570                 575
```

Ser Asp Glu Glu Lys Met His Tyr Gln Asn Gly Gln Ala Pro Pro Pro
580 585 590

Val Phe Leu Pro Leu His His Pro Pro Gly Lys Leu Pro Glu Pro Gln
595 600 605

Phe Tyr Ala Glu Pro His Thr Tyr Glu Glu Pro Gly Arg Ala Gly Arg
610 615 620

Ser Phe Thr Arg Glu Ile Glu Ala Ser Arg Ile His Ile Glu Lys Ile
625 630 635 640

Ile Gly Ser Gly Asp Ser Gly Glu Val Cys Tyr Gly Arg Leu Arg Val
645 650 655

Pro Gly Gln Arg Asp Val Pro Val Ala Ile Lys Ala Leu Lys Ala Gly
660 665 670

Tyr Thr Glu Arg Gln Arg Arg Asp Phe Leu Ser Glu Ala Ser Ile Met
675 680 685

Gly Gln Phe Asp His Pro Asn Ile Ile Arg Leu Glu Gly Val Val Thr
690 695 700

Arg Gly Arg Leu Ala Met Ile Val Thr Glu Tyr Met Glu Asn Gly Ser
705 710 715 720

Leu Asp Thr Phe Leu Arg Thr His Asp Gly Gln Phe Thr Ile Met Gln
725 730 735

Leu Val Gly Met Leu Arg Gly Val Gly Ala Gly Met Arg Tyr Leu Ser
740 745 750

Asp Leu Gly Tyr Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val
755 760 765

Asp Ser Asn Leu Val Cys Lys Val Ser Asp Phe Gly Leu Ser Arg Val
770 775 780

Leu Glu Asp Asp Pro Asp Ala Ala Tyr Thr Thr Thr Gly Gly Lys Ile
785 790 795 800

Pro Ile Arg Trp Thr Ala Pro Glu Ala Ile Ala Phe Arg Thr Phe Ser
805 810 815

Ser Ala Ser Asp Val Trp Ser Phe Gly Val Val Met Trp Glu Val Leu
820 825 830

Ala Tyr Gly Glu Arg Pro Tyr Trp Asn Met Thr Asn Arg Asp Val Ile
835 840 845

Ser Ser Val Glu Glu Gly Tyr Arg Leu Pro Ala Pro Met Gly Cys Pro
850 855 860

His Ala Leu His Gln Leu Met Leu Asp Cys Trp His Lys Asp Arg Ala
865 870 875 880

Gln Arg Pro Arg Phe Ser Gln Ile Val Ser Val Leu Asp Ala Leu Ile
885 890 895

Arg Ser Pro Glu Ser Leu Arg Ala Thr Ala Thr Val Ser Arg Cys Pro
900 905 910

```
Pro Pro Ala Phe Val Arg Ser Cys Phe Asp Leu Arg Gly Gly Ser Gly
        915                 920                 925

Gly Gly Gly Gly Leu Thr Val Gly Asp Trp Leu Asp Ser Ile Arg Met
    930                 935                 940

Gly Arg Tyr Arg Asp His Phe Ala Ala Gly Gly Tyr Ser Ser Leu Gly
945                 950                 955                 960

Met Val Leu Arg Met Asn Ala Gln Asp Val Arg Ala Leu Gly Ile Thr
                965                 970                 975

Leu Met Gly His Gln Lys Lys Ile Leu Gly Ser Ile Gln Thr Met Arg
            980                 985                 990


<210> 54
<211> 450
<212> PRT
<213> Mus musculus

<400> 54
Met Ala Pro Ala Arg Ala Arg Leu Ser Pro Ala Leu Trp Val Val Thr
  1               5                  10                  15

Ala Ala Ala Ala Ala Thr Cys Val Ser Ala Gly Arg Gly Glu Val Asn
             20                  25                  30

Leu Leu Asp Thr Ser Thr Ile His Gly Asp Trp Gly Trp Leu Thr Tyr
         35                  40                  45

Pro Ala His Gly Trp Asp Ser Ile Asn Glu Val Asp Glu Ser Phe Arg
     50                  55                  60

Pro Ile His Thr Tyr Gln Val Cys Asn Val Met Ser Pro Asn Gln Asn
 65                  70                  75                  80

Asn Trp Leu Arg Thr Asn Trp Val Pro Arg Asp Gly Ala Arg Arg Val
                 85                  90                  95

Tyr Ala Glu Ile Lys Phe Thr Leu Arg Asp Cys Asn Ser Ile Pro Gly
            100                 105                 110

Val Leu Gly Thr Cys Lys Glu Thr Phe Asn Leu His Tyr Leu Glu Ser
        115                 120                 125

Asp Arg Asp Leu Gly Ala Ser Thr Gln Glu Ser Gln Phe Leu Lys Ile
    130                 135                 140

Asp Thr Ile Ala Ala Asp Glu Ser Phe Thr Gly Ala Asp Leu Gly Val
145                 150                 155                 160

Arg Arg Leu Lys Leu Asn Thr Glu Val Arg Gly Val Gly Pro Leu Ser
                165                 170                 175

Lys Arg Gly Phe Tyr Leu Ala Phe Gln Asp Ile Gly Ala Cys Leu Ala
            180                 185                 190

Ile Leu Ser Leu Arg Ile Tyr Tyr Lys Lys Cys Pro Ala Met Val Arg
        195                 200                 205

Asn Leu Ala Ala Phe Ser Glu Ala Val Thr Gly Ala Asp Ser Ser Ser
    210                 215                 220
```

```
Leu Val Glu Val Arg Gly Gln Cys Val Arg His Ser Glu Glu Arg Asp
225                 230                 235                 240

Thr Pro Lys Met Tyr Cys Ser Ala Glu Gly Glu Trp Leu Val Pro Ile
                245                 250                 255

Gly Lys Cys Val Cys Ser Ala Gly Tyr Glu Glu Arg Arg Asp Ala Cys
            260                 265                 270

Met Ala Cys Glu Leu Gly Phe Tyr Lys Ser Ala Pro Gly Asp Gln Leu
        275                 280                 285

Cys Ala Arg Cys Pro Pro His Ser His Ser Ala Thr Pro Ala Ala Gln
    290                 295                 300

Thr Cys Arg Cys Asp Leu Ser Tyr Tyr Arg Ala Ala Leu Asp Pro Pro
305                 310                 315                 320

Ser Ala Ala Cys Thr Arg Pro Pro Ser Ala Pro Val Asn Leu Ile Ser
                325                 330                 335

Ser Val Asn Gly Thr Ser Val Thr Leu Glu Trp Ala Pro Pro Leu Asp
            340                 345                 350

Pro Gly Gly Arg Ser Asp Ile Thr Tyr Asn Ala Val Cys Arg Arg Cys
        355                 360                 365

Pro Trp Ala Leu Ser His Cys Glu Ala Cys Gly Ser Gly Thr Arg Phe
    370                 375                 380

Val Pro Gln Gln Thr Ser Leu Ala Gln Ala Ser Leu Leu Val Ala Asn
385                 390                 395                 400

Leu Leu Ala His Met Asn Tyr Ser Phe Trp Ile Glu Ala Val Asn Gly
                405                 410                 415

Val Ser Asn Leu Ser Pro Glu Pro Arg Ser Ala Ala Val Val Asn Ile
            420                 425                 430

Thr Thr Asn Gln Ala Ala Pro Ser Gln Val Val Val Ile Arg Gln Glu
        435                 440                 445

Arg Ala
    450


<210> 55
<211> 480
<212> PRT
<213> Homo sapiens

<400> 55
Met Arg Gly Ser Gly Pro Arg Gly Ala Gly His Arg Arg Pro Pro Ser
  1               5                  10                  15

Gly Gly Gly Asp Thr Pro Ile Thr Pro Ala Ser Leu Ala Gly Cys Tyr
             20                  25                  30

Ser Ala Pro Arg Arg Ala Pro Leu Trp Thr Cys Leu Leu Leu Cys Ala
         35                  40                  45

Ala Leu Arg Thr Leu Leu Ala Ser Pro Ser Asn Glu Val Asn Leu Leu
```

```
     50                  55                  60

Asp Ser Arg Thr Val Met Gly Asp Leu Gly Trp Ile Ala Phe Pro Lys
 65                  70                  75                  80

Asn Gly Trp Glu Glu Ile Gly Glu Val Asp Glu Asn Tyr Ala Pro Ile
                 85                  90                  95

His Thr Tyr Gln Val Cys Lys Val Met Glu Gln Asn Gln Asn Asn Trp
            100                 105                 110

Leu Leu Thr Ser Trp Ile Ser Asn Glu Gly Ala Ser Arg Ile Phe Ile
        115                 120                 125

Glu Leu Lys Phe Thr Leu Arg Asp Cys Asn Ser Leu Pro Gly Gly Leu
    130                 135                 140

Gly Thr Cys Lys Glu Thr Phe Asn Met Tyr Tyr Phe Glu Ser Asp Asp
145                 150                 155                 160

Gln Asn Gly Arg Asn Ile Lys Glu Asn Gln Tyr Ile Lys Ile Asp Thr
                165                 170                 175

Ile Ala Ala Asp Glu Ser Phe Thr Glu Leu Asp Leu Gly Asp Arg Val
            180                 185                 190

Met Lys Leu Asn Thr Glu Val Arg Asp Val Gly Pro Leu Ser Lys Lys
        195                 200                 205

Gly Phe Tyr Leu Ala Phe Gln Asp Val Gly Ala Cys Ile Ala Leu Val
    210                 215                 220

Ser Val Arg Val Tyr Tyr Lys Lys Cys Pro Ser Val Val Arg His Leu
225                 230                 235                 240

Ala Val Phe Pro Asp Thr Ile Thr Gly Ala Asp Ser Ser Gln Leu Leu
                245                 250                 255

Glu Val Ser Gly Ser Cys Val Asn His Ser Val Thr Asp Glu Pro Pro
            260                 265                 270

Lys Met His Cys Ser Ala Glu Gly Glu Trp Leu Val Pro Ile Gly Lys
        275                 280                 285

Cys Met Cys Lys Ala Gly Tyr Glu Glu Lys Asn Gly Thr Cys Gln Val
    290                 295                 300

Cys Arg Pro Gly Phe Phe Lys Ala Ser Pro His Ile Gln Ser Cys Gly
305                 310                 315                 320

Lys Cys Pro Pro His Ser Tyr Thr His Glu Glu Ala Ser Thr Ser Cys
                325                 330                 335

Val Cys Glu Lys Asp Tyr Phe Arg Arg Glu Ser Asp Pro Pro Thr Met
            340                 345                 350

Ala Cys Thr Arg Pro Pro Ser Ala Pro Arg Asn Ala Ile Ser Asn Val
        355                 360                 365

Asn Glu Thr Ser Val Phe Leu Glu Trp Ile Pro Pro Ala Asp Thr Gly
    370                 375                 380

Gly Arg Lys Asp Val Ser Tyr Tyr Ile Ala Cys Lys Lys Cys Asn Ser
```

385 390 395 400

His Ala Gly Val Cys Glu Glu Cys Gly Gly His Val Arg Tyr Leu Pro
405 410 415

Arg Gln Ser Gly Leu Lys Asn Thr Ser Val Met Met Val Asp Leu Leu
420 425 430

Ala His Thr Asn Tyr Thr Phe Glu Ile Glu Ala Val Asn Gly Val Ser
435 440 445

Asp Leu Ser Pro Gly Ala Arg Gln Tyr Val Ser Val Asn Val Thr Thr
450 455 460

Asn Gln Ala Ala Pro Ser Pro Val Thr Asn Val Lys Lys Gly Lys Ile
465 470 475 480

<210> 56
<211> 456
<212> PRT
<213> Gallus gallus

<400> 56
Met Gly Leu Arg Gly Gly Gly Gly Arg Ala Gly Gly Pro Ala Pro Gly
1 5 10 15

Trp Thr Cys Leu Leu Leu Cys Ala Ala Leu Arg Ser Leu Leu Ala Ser
20 25 30

Pro Gly Ser Glu Val Asn Leu Leu Asp Ser Arg Thr Val Met Gly Asp
35 40 45

Leu Gly Trp Ile Ala Tyr Pro Lys Asn Gly Trp Glu Glu Ile Gly Glu
50 55 60

Val Asp Glu Asn Tyr Ala Pro Ile His Thr Tyr Gln Val Cys Lys Val
65 70 75 80

Met Glu Gln Asn Gln Asn Asn Trp Leu Leu Thr Ser Trp Ile Ser Asn
85 90 95

Glu Gly Arg Pro Ala Ser Ser Phe Glu Leu Lys Phe Thr Leu Arg Asp
100 105 110

Cys Asn Ser Leu Pro Gly Gly Leu Gly Thr Cys Lys Glu Thr Phe Asn
115 120 125

Met Tyr Tyr Phe Glu Ser Asp Asp Glu Asp Gly Arg Asn Ile Arg Glu
130 135 140

Asn Gln Tyr Ile Lys Ile Asp Thr Ile Ala Ala Asp Glu Ser Phe Thr
145 150 155 160

Glu Leu Asp Leu Gly Asp Arg Val Met Lys Leu Asn Thr Glu Val Arg
165 170 175

Asp Val Gly Pro Leu Thr Lys Lys Gly Phe Tyr Leu Ala Phe Gln Asp
180 185 190

Val Gly Ala Cys Ile Ala Leu Val Ser Val Arg Val Tyr Tyr Lys Lys
195 200 205

```
Cys Pro Ser Val Ile Arg Asn Leu Ala Arg Phe Pro Asp Thr Ile Thr
    210                 215                 220

Gly Ala Asp Ser Ser Gln Leu Leu Glu Val Ser Gly Val Cys Val Asn
225                 230                 235                 240

His Ser Val Thr Asp Glu Ala Pro Lys Met His Cys Ser Ala Glu Gly
                245                 250                 255

Glu Trp Leu Val Pro Ile Gly Lys Cys Leu Cys Lys Ala Gly Tyr Glu
            260                 265                 270

Glu Lys Asn Asn Thr Cys Gln Val Cys Arg Pro Gly Phe Phe Lys Ala
        275                 280                 285

Ser Pro His Ser Pro Ser Cys Ser Lys Cys Pro Pro His Ser Tyr Thr
    290                 295                 300

Leu Asp Glu Ala Ser Thr Ser Cys Leu Cys Glu Glu His Tyr Phe Arg
305                 310                 315                 320

Arg Glu Ser Asp Pro Pro Thr Met Ala Cys Thr Arg Pro Pro Ser Ala
                325                 330                 335

Pro Arg Ser Ala Ile Ser Asn Val Asn Glu Thr Ser Val Phe Leu Glu
            340                 345                 350

Trp Ile Pro Pro Ala Asp Thr Gly Gly Arg Lys Asp Val Ser Tyr Tyr
        355                 360                 365

Ile Ala Cys Lys Lys Cys Asn Ser His Ser Gly Leu Cys Glu Ala Cys
    370                 375                 380

Gly Ser His Val Arg Tyr Leu Pro Gln Gln Thr Gly Leu Lys Asn Thr
385                 390                 395                 400

Ser Val Met Met Val Asp Leu Leu Ala His Thr Asn Tyr Thr Phe Glu
                405                 410                 415

Ile Glu Ala Val Asn Gly Val Ser Asp Gln Asn Pro Gly Ala Arg Gln
            420                 425                 430

Phe Val Ser Val Asn Val Thr Thr Asn Gln Ala Ala Pro Ser Pro Val
        435                 440                 445

Ser Ser Val Lys Lys Gly Lys Ile
    450                 455


<210> 57
<211> 649
<212> PRT
<213> Homo sapiens

<400> 57
Met Ile Ser Ala Ala Trp Ser Ile Phe Leu Ile Gly Thr Lys Ile Gly
  1               5                  10                  15

Leu Phe Leu Gln Val Ala Pro Leu Ser Val Met Ala Lys Ser Cys Pro
             20                  25                  30

Ser Val Cys Arg Cys Asp Ala Gly Phe Ile Tyr Cys Asn Asp Arg Phe
```

```
          35                  40                  45

Leu Thr Ser Ile Pro Thr Gly Ile Pro Glu Asp Ala Thr Thr Leu Tyr
     50                  55                  60

Leu Gln Asn Asn Gln Ile Asn Asn Ala Gly Ile Pro Ser Asp Leu Lys
 65                  70                  75                  80

Asn Leu Leu Lys Val Glu Arg Ile Tyr Leu Tyr His Asn Ser Leu Asp
                 85                  90                  95

Glu Phe Pro Thr Asn Leu Pro Lys Tyr Val Lys Glu Leu His Leu Gln
            100                 105                 110

Glu Asn Asn Ile Arg Thr Ile Thr Tyr Asp Ser Leu Ser Lys Ile Pro
        115                 120                 125

Tyr Leu Glu Glu Leu His Leu Asp Asp Asn Ser Val Ser Ala Val Ser
    130                 135                 140

Ile Glu Glu Gly Ala Phe Arg Asp Ser Asn Tyr Leu Arg Leu Leu Phe
145                 150                 155                 160

Leu Ser Arg Asn His Leu Ser Thr Ile Pro Trp Gly Leu Pro Arg Thr
                165                 170                 175

Ile Glu Glu Leu Arg Leu Asp Asp Asn Arg Ile Ser Thr Ile Ser Ser
            180                 185                 190

Pro Ser Leu Gln Gly Leu Thr Ser Leu Lys Arg Leu Val Leu Asp Gly
        195                 200                 205

Asn Leu Leu Asn Asn His Gly Leu Gly Asp Lys Val Phe Phe Asn Leu
    210                 215                 220

Val Asn Leu Thr Glu Leu Ser Leu Val Arg Asn Ser Leu Thr Ala Ala
225                 230                 235                 240

Pro Val Asn Leu Pro Gly Thr Asn Leu Arg Lys Leu Tyr Leu Gln Asp
                245                 250                 255

Asn His Ile Asn Arg Val Pro Pro Asn Ala Phe Ser Tyr Leu Arg Gln
            260                 265                 270

Leu Tyr Arg Leu Asp Met Ser Asn Asn Asn Leu Ser Asn Leu Pro Gln
        275                 280                 285

Gly Ile Phe Asp Asp Leu Asp Asn Ile Thr Gln Leu Ile Leu Arg Asn
    290                 295                 300

Asn Pro Trp Tyr Cys Gly Cys Lys Met Lys Trp Val Arg Asp Trp Leu
305                 310                 315                 320

Gln Ser Leu Pro Val Lys Val Asn Val Arg Gly Leu Met Cys Gln Ala
                325                 330                 335

Pro Glu Lys Val Arg Gly Met Ala Ile Lys Asp Leu Asn Ala Glu Leu
            340                 345                 350

Phe Asp Cys Lys Asp Ser Gly Ile Val Ser Thr Ile Gln Ile Thr Thr
        355                 360                 365

Ala Ile Pro Asn Thr Val Tyr Pro Ala Gln Gly Gln Trp Pro Ala Pro
```

```
    370                 375                 380

Val Thr Lys Gln Pro Asp Ile Lys Asn Pro Lys Leu Thr Lys Asp His
385                 390                 395                 400

Gln Thr Thr Gly Ser Pro Ser Arg Lys Thr Ile Thr Ile Thr Val Lys
                405                 410                 415

Ser Val Thr Ser Asp Thr Ile His Ile Ser Trp Lys Leu Ala Leu Pro
            420                 425                 430

Met Thr Ala Leu Arg Leu Ser Trp Leu Lys Leu Gly His Ser Pro Ala
        435                 440                 445

Phe Gly Ser Ile Thr Glu Thr Ile Val Thr Gly Glu Arg Ser Glu Tyr
    450                 455                 460

Leu Val Thr Ala Leu Glu Pro Asp Ser Pro Tyr Lys Val Cys Met Val
465                 470                 475                 480

Pro Met Glu Thr Ser Asn Leu Tyr Leu Phe Asp Glu Thr Pro Val Cys
                485                 490                 495

Ile Glu Thr Glu Thr Ala Pro Leu Arg Met Tyr Asn Pro Thr Thr Thr
            500                 505                 510

Leu Asn Arg Glu Gln Glu Lys Glu Pro Tyr Lys Asn Pro Asn Leu Pro
        515                 520                 525

Leu Ala Ala Ile Ile Gly Gly Ala Val Ala Leu Val Thr Ile Ala Leu
    530                 535                 540

Leu Ala Leu Val Cys Trp Tyr Val His Arg Asn Gly Ser Leu Phe Ser
545                 550                 555                 560

Arg Asn Cys Ala Tyr Ser Lys Gly Arg Arg Arg Lys Asp Asp Tyr Ala
                565                 570                 575

Glu Ala Gly Thr Lys Lys Asp Asn Ser Ile Leu Glu Ile Arg Glu Thr
            580                 585                 590

Ser Phe Gln Met Leu Pro Ile Ser Asn Glu Pro Ile Ser Lys Glu Glu
        595                 600                 605

Phe Val Ile His Thr Ile Phe Pro Pro Asn Gly Met Asn Leu Tyr Lys
    610                 615                 620

Asn Asn His Ser Glu Ser Ser Ser Asn Arg Ser Tyr Arg Asp Ser Gly
625                 630                 635                 640

Ile Pro Asp Ser Asp His Ser His Ser
                645
```

<210> 58
<211> 660
<212> PRT
<213> Homo sapiens

<400> 58

```
Met Gly Leu Gln Thr Thr Lys Trp Pro Ser His Gly Ala Phe Phe Leu
  1               5                  10                  15
```

```
Lys Ser Trp Leu Ile Ile Ser Leu Gly Leu Tyr Ser Gln Val Ser Lys
            20                  25                  30

Leu Leu Ala Cys Pro Ser Val Cys Arg Cys Asp Arg Asn Phe Val Tyr
        35                  40                  45

Cys Asn Glu Arg Ser Leu Thr Ser Val Pro Leu Gly Ile Pro Glu Gly
    50                  55                  60

Val Thr Val Leu Tyr Leu His Asn Asn Gln Ile Asn Asn Ala Gly Phe
65                  70                  75                  80

Pro Ala Glu Leu His Asn Val Gln Ser Val His Thr Val Tyr Leu Tyr
                85                  90                  95

Gly Asn Gln Leu Asp Glu Phe Pro Met Asn Leu Pro Lys Asn Val Arg
            100                 105                 110

Val Leu His Leu Gln Glu Asn Asn Ile Gln Thr Ile Ser Arg Ala Ala
        115                 120                 125

Leu Ala Gln Leu Leu Lys Leu Glu Glu Leu His Leu Asp Asp Asn Ser
    130                 135                 140

Ile Ser Thr Val Gly Val Glu Asp Gly Ala Phe Arg Glu Ala Ile Ser
145                 150                 155                 160

Leu Lys Leu Leu Phe Leu Ser Lys Asn His Leu Ser Ser Val Pro Val
                165                 170                 175

Gly Leu Pro Val Asp Leu Gln Glu Leu Arg Val Asp Glu Asn Arg Ile
            180                 185                 190

Ala Val Ile Ser Asp Met Ala Phe Gln Asn Leu Thr Ser Leu Glu Arg
        195                 200                 205

Leu Ile Val Asp Gly Asn Leu Leu Thr Asn Lys Gly Ile Ala Glu Gly
    210                 215                 220

Thr Phe Ser His Leu Thr Lys Leu Lys Glu Phe Ser Ile Val Arg Asn
225                 230                 235                 240

Ser Leu Ser His Pro Pro Pro Asp Leu Pro Gly Thr His Leu Ile Arg
                245                 250                 255

Leu Tyr Leu Gln Asp Asn Gln Ile Asn His Ile Pro Leu Thr Ala Phe
            260                 265                 270

Ser Asn Leu Arg Lys Leu Glu Arg Leu Asp Ile Ser Asn Asn Gln Leu
        275                 280                 285

Arg Met Leu Thr Gln Gly Val Phe Asp Asn Leu Ser Asn Leu Lys Gln
    290                 295                 300

Leu Thr Ala Arg Asn Asn Pro Trp Phe Cys Asp Cys Ser Ile Lys Trp
305                 310                 315                 320

Val Thr Glu Trp Leu Lys Tyr Ile Pro Ser Ser Leu Asn Val Arg Gly
                325                 330                 335

Phe Met Cys Gln Gly Pro Glu Gln Val Arg Gly Met Ala Val Arg Glu
            340                 345                 350
```

Leu Asn Met Asn Leu Leu Ser Cys Pro Thr Thr Thr Pro Gly Leu Pro
355 360 365

Leu Phe Thr Pro Ala Pro Ser Thr Ala Ser Pro Thr Thr Gln Pro Pro
370 375 380

Thr Leu Ser Ile Pro Asn Pro Ser Arg Ser Tyr Thr Pro Pro Thr Pro
385 390 395 400

Thr Thr Ser Lys Leu Pro Thr Ile Pro Asp Trp Asp Gly Arg Glu Arg
405 410 415

Val Thr Pro Pro Ile Ser Glu Arg Ile Gln Leu Ser Ile His Phe Val
420 425 430

Asn Asp Thr Ser Ile Gln Val Ser Trp Leu Ser Leu Phe Thr Val Met
435 440 445

Ala Tyr Lys Leu Thr Trp Val Lys Met Gly His Ser Leu Val Gly Gly
450 455 460

Ile Val Gln Glu Arg Ile Val Ser Gly Glu Lys Gln His Leu Ser Leu
465 470 475 480

Val Asn Leu Glu Pro Arg Ser Thr Tyr Arg Ile Cys Leu Val Pro Leu
485 490 495

Asp Ala Phe Asn Tyr Arg Ala Val Glu Asp Thr Ile Cys Ser Glu Ala
500 505 510

Thr Thr His Ala Ser Tyr Leu Asn Asn Gly Ser Asn Thr Ala Ser Ser
515 520 525

His Glu Gln Thr Thr Ser His Ser Met Gly Ser Pro Phe Leu Leu Ala
530 535 540

Gly Leu Ile Gly Gly Ala Val Ile Phe Val Leu Val Val Leu Leu Ser
545 550 555 560

Val Phe Cys Trp His Met His Lys Lys Gly Arg Tyr Thr Ser Gln Lys
565 570 575

Trp Lys Tyr Asn Arg Gly Arg Arg Lys Asp Asp Tyr Cys Glu Ala Gly
580 585 590

Thr Lys Lys Asp Asn Ser Ile Leu Glu Met Thr Glu Thr Ser Phe Gln
595 600 605

Ile Val Ser Leu Asn Asn Asp Gln Leu Leu Lys Gly Asp Phe Arg Leu
610 615 620

Gln Pro Ile Tyr Thr Pro Asn Gly Gly Ile Asn Tyr Thr Asp Cys His
625 630 635 640

Ile Pro Asn Asn Met Arg Tyr Cys Asn Ser Ser Val Pro Asp Leu Glu
645 650 655

His Cys His Thr
660

<210> 59
<211> 674

<212> PRT
<213> Homo sapiens

<400> 59

```
Met Val Val Ala His Pro Thr Ala Thr Ala Thr Thr Thr Pro Thr Ala
  1               5                  10                  15

Thr Val Thr Ala Thr Val Val Met Thr Thr Ala Thr Met Asp Leu Arg
            20                  25                  30

Asp Trp Leu Phe Leu Cys Tyr Gly Leu Ile Ala Phe Leu Thr Glu Val
        35                  40                  45

Ile Asp Ser Thr Thr Cys Pro Ser Val Cys Arg Cys Asp Asn Gly Phe
    50                  55                  60

Ile Tyr Cys Asn Asp Arg Gly Leu Thr Ser Ile Pro Ala Asp Ile Pro
65                  70                  75                  80

Asp Asp Ala Thr Thr Leu Tyr Leu Gln Asn Asn Gln Ile Asn Asn Ala
                85                  90                  95

Gly Ile Pro Gln Asp Leu Lys Thr Lys Val Asn Val Gln Val Ile Tyr
            100                 105                 110

Leu Tyr Glu Asn Asp Leu Asp Glu Phe Pro Ile Asn Leu Pro Arg Ser
        115                 120                 125

Leu Arg Glu Leu His Leu Gln Asp Asn Asn Val Arg Thr Ile Ala Arg
    130                 135                 140

Asp Ser Leu Ala Arg Ile Pro Leu Leu Glu Lys Leu His Leu Asp Asp
145                 150                 155                 160

Asn Ser Val Ser Thr Val Ser Ile Glu Glu Asp Ala Phe Ala Asp Ser
                165                 170                 175

Lys Gln Leu Lys Leu Leu Phe Leu Ser Arg Asn His Leu Ser Ser Ile
            180                 185                 190

Pro Ser Gly Leu Pro His Thr Leu Glu Glu Leu Arg Leu Asp Asp Asn
        195                 200                 205

Arg Ile Ser Thr Ile Pro Leu His Ala Phe Lys Gly Leu Asn Ser Leu
    210                 215                 220

Arg Arg Leu Val Leu Asp Gly Asn Leu Leu Ala Asn Gln Arg Ile Ala
225                 230                 235                 240

Asp Asp Thr Phe Ser Arg Leu Gln Asn Leu Thr Glu Leu Ser Leu Val
                245                 250                 255

Arg Asn Ser Leu Ala Ala Pro Pro Leu Asn Leu Pro Ser Ala His Leu
            260                 265                 270

Gln Lys Leu Tyr Leu Gln Asp Asn Ala Ile Ser His Ile Pro Tyr Asn
        275                 280                 285

Thr Leu Ala Lys Met Arg Glu Leu Glu Arg Leu Asp Leu Ser Asn Asn
    290                 295                 300

Asn Leu Thr Thr Leu Pro Arg Gly Leu Phe Asp Asp Leu Gly Asn Leu
305                 310                 315                 320
```

Ala Gln Leu Leu Leu Arg Asn Asn Pro Trp Phe Cys Gly Cys Asn Leu
325 330 335

Met Trp Leu Arg Asp Trp Val Lys Ala Arg Ala Ala Val Val Asn Val
340 345 350

Arg Gly Leu Met Cys Gln Gly Pro Glu Lys Val Arg Gly Met Ala Ile
355 360 365

Lys Asp Ile Thr Ser Glu Met Asp Glu Cys Phe Glu Thr Gly Pro Gln
370 375 380

Gly Gly Val Ala Asn Ala Ala Ala Lys Thr Thr Ala Ser Asn His Ala
385 390 395 400

Ser Ala Thr Thr Pro Gln Gly Ser Leu Phe Thr Leu Lys Ala Lys Arg
405 410 415

Pro Gly Leu Arg Leu Pro Asp Ser Asn Ile Asp Tyr Pro Met Ala Thr
420 425 430

Gly Asp Gly Ala Lys Thr Leu Ala Ile His Val Lys Ala Leu Thr Ala
435 440 445

Asp Ser Ile Arg Ile Thr Trp Lys Ala Thr Leu Pro Ala Ser Ser Phe
450 455 460

Arg Leu Ser Trp Leu Arg Leu Gly His Ser Pro Ala Val Gly Ser Ile
465 470 475 480

Thr Glu Thr Leu Val Gln Gly Asp Lys Thr Glu Tyr Leu Leu Thr Ala
485 490 495

Leu Glu Pro Lys Ser Thr Tyr Ile Ile Cys Met Val Thr Met Glu Thr
500 505 510

Ser Asn Ala Tyr Val Ala Asp Glu Thr Pro Val Cys Ala Lys Ala Glu
515 520 525

Thr Ala Asp Ser Tyr Gly Pro Thr Thr Thr Leu Asn Gln Glu Gln Asn
530 535 540

Ala Gly Pro Met Ala Ser Leu Pro Leu Ala Gly Ile Ile Gly Gly Ala
545 550 555 560

Val Ala Leu Val Phe Leu Phe Leu Val Leu Gly Ala Ile Cys Trp Tyr
565 570 575

Val His Gln Ala Gly Glu Leu Leu Thr Arg Glu Arg Ala Tyr Asn Arg
580 585 590

Gly Ser Arg Glu Lys Asp Asp Tyr Met Glu Ser Gly Thr Lys Lys Asp
595 600 605

Asn Ser Ile Leu Glu Ile Arg Gly Pro Gly Leu Gln Met Leu Pro Ile
610 615 620

Asn Pro Tyr Arg Ala Lys Glu Glu Tyr Val Val His Thr Ile Phe Pro
625 630 635 640

Ser Asn Gly Ser Ser Leu Cys Lys Ala Thr His Thr Ile Gly Tyr Gly
645 650 655

Thr Thr Arg Gly Tyr Arg Asp Gly Gly Ile Pro Asp Ile Asp Tyr Ser
660 665 670

Tyr Thr

<210> 60
<211> 674
<212> PRT
<213> Homo sapiens

<400> 60
Met Val Val Ala His Pro Thr Ala Thr Ala Thr Thr Thr Pro Thr Ala
1 5 10 15

Thr Val Thr Ala Thr Val Val Met Thr Thr Ala Thr Met Asp Leu Arg
20 25 30

Asp Trp Leu Phe Leu Cys Tyr Gly Leu Ile Ala Phe Leu Thr Glu Val
35 40 45

Ile Asp Ser Thr Thr Cys Pro Ser Val Cys Arg Cys Asp Asn Gly Phe
50 55 60

Ile Tyr Cys Asn Asp Arg Gly Leu Thr Ser Ile Pro Ala Asp Ile Pro
65 70 75 80

Asp Asp Ala Thr Thr Leu Tyr Leu Gln Asn Asn Gln Ile Asn Asn Ala
85 90 95

Gly Ile Pro Gln Asp Leu Lys Thr Lys Val Asn Val Gln Val Ile Tyr
100 105 110

Leu Tyr Glu Asn Asp Leu Asp Glu Phe Pro Ile Asn Leu Pro Arg Ser
115 120 125

Leu Arg Glu Leu His Leu Gln Asp Asn Asn Val Arg Thr Ile Ala Arg
130 135 140

Asp Ser Leu Ala Arg Ile Pro Leu Leu Glu Lys Leu His Leu Asp Asp
145 150 155 160

Asn Ser Val Ser Thr Val Ser Ile Glu Glu Asp Ala Phe Ala Asp Ser
165 170 175

Lys Gln Leu Lys Leu Leu Phe Leu Ser Arg Asn His Leu Ser Ser Ile
180 185 190

Pro Ser Gly Leu Pro His Thr Leu Glu Glu Leu Arg Leu Asp Asp Asn
195 200 205

Arg Ile Ser Thr Ile Pro Leu His Ala Phe Lys Gly Leu Asn Ser Leu
210 215 220

Arg Arg Leu Val Leu Asp Gly Asn Leu Leu Ala Asn Gln Arg Ile Ala
225 230 235 240

Asp Asp Thr Phe Ser Arg Leu Gln Asn Leu Thr Glu Leu Ser Leu Val
245 250 255

Arg Asn Ser Leu Ala Ala Pro Pro Leu Asn Leu Pro Ser Ala His Leu

```
            260                 265                 270

Gln Lys Leu Tyr Leu Gln Asp Asn Ala Ile Ser His Ile Pro Tyr Asn
        275                 280                 285

Thr Leu Ala Lys Met Arg Glu Leu Glu Arg Leu Asp Leu Ser Asn Asn
    290                 295                 300

Asn Leu Thr Thr Leu Pro Arg Gly Leu Phe Asp Asp Leu Gly Asn Leu
305                 310                 315                 320

Ala Gln Leu Leu Leu Arg Asn Asn Pro Trp Phe Cys Gly Cys Asn Leu
                325                 330                 335

Met Trp Leu Arg Asp Trp Val Lys Ala Arg Ala Ala Val Val Asn Val
            340                 345                 350

Arg Gly Leu Met Cys Gln Gly Pro Glu Lys Val Arg Gly Met Ala Ile
        355                 360                 365

Lys Asp Ile Thr Ser Glu Met Asp Glu Cys Phe Glu Thr Gly Pro Gln
    370                 375                 380

Gly Gly Val Ala Asn Ala Ala Ala Lys Thr Thr Ala Ser Asn His Ala
385                 390                 395                 400

Ser Ala Thr Thr Pro Gln Gly Ser Leu Phe Thr Leu Lys Ala Lys Arg
                405                 410                 415

Pro Gly Leu Arg Leu Pro Asp Ser Asn Ile Asp Tyr Pro Met Ala Thr
            420                 425                 430

Gly Asp Gly Ala Lys Thr Leu Ala Ile His Val Lys Ala Leu Thr Ala
        435                 440                 445

Asp Ser Ile Arg Ile Thr Trp Lys Ala Thr Leu Pro Ala Ser Ser Phe
    450                 455                 460

Arg Leu Ser Trp Leu Arg Leu Gly His Ser Pro Ala Val Gly Ser Ile
465                 470                 475                 480

Thr Glu Thr Leu Val Gln Gly Asp Lys Thr Glu Tyr Leu Leu Thr Ala
                485                 490                 495

Leu Glu Pro Lys Ser Thr Tyr Ile Ile Cys Met Val Thr Met Glu Thr
            500                 505                 510

Ser Asn Ala Tyr Val Ala Asp Glu Thr Pro Val Cys Ala Lys Ala Glu
        515                 520                 525

Thr Ala Asp Ser Tyr Gly Pro Thr Thr Thr Leu Asn Gln Glu Gln Asn
    530                 535                 540

Ala Gly Pro Met Ala Ser Leu Pro Leu Ala Gly Ile Ile Gly Gly Ala
545                 550                 555                 560

Val Ala Leu Val Phe Leu Phe Leu Val Leu Gly Ala Ile Cys Trp Tyr
                565                 570                 575

Val His Gln Ala Gly Glu Leu Leu Thr Arg Glu Arg Ala Tyr Asn Arg
            580                 585                 590

Gly Ser Arg Glu Lys Asp Asp Tyr Met Glu Ser Gly Thr Lys Lys Asp
```

595 600 605

Asn Ser Ile Leu Glu Ile Arg Gly Pro Gly Leu Gln Met Leu Pro Ile
610 615 620

Asn Pro Tyr Arg Ala Lys Glu Glu Tyr Val Val His Thr Ile Phe Pro
625 630 635 640

Ser Asn Gly Ser Ser Leu Cys Lys Ala Thr His Thr Ile Gly Tyr Gly
645 650 655

Thr Thr Arg Gly Tyr Arg Asp Gly Gly Ile Pro Asp Ile Asp Tyr Ser
660 665 670

Tyr Thr

<210> 61
<211> 246
<212> PRT
<213> Homo sapiens

<400> 61
Pro Met Ala Thr Gly Asp Gly Ala Lys Thr Leu Ala Ile His Val Lys
1 5 10 15

Ala Leu Thr Ala Asp Ser Ile Arg Ile Thr Trp Lys Ala Thr Leu Pro
20 25 30

Ala Ser Ser Phe Arg Leu Ser Trp Leu Arg Leu Gly His Ser Pro Ala
35 40 45

Val Gly Ser Ile Thr Glu Thr Leu Val Gln Gly Asp Lys Thr Glu Tyr
50 55 60

Leu Leu Thr Ala Leu Glu Pro Lys Ser Thr Tyr Ile Ile Cys Met Val
65 70 75 80

Thr Met Glu Thr Ser Asn Ala Tyr Val Ala Asp Glu Thr Pro Val Cys
85 90 95

Ala Lys Ala Glu Thr Ala Asp Ser Tyr Gly Pro Thr Thr Thr Leu Asn
100 105 110

Gln Glu Gln Asn Ala Gly Pro Met Ala Ser Leu Pro Leu Ala Gly Ile
115 120 125

Ile Gly Gly Ala Val Ala Leu Val Phe Leu Phe Leu Val Leu Gly Ala
130 135 140

Ile Cys Trp Tyr Val His Gln Ala Gly Glu Leu Leu Thr Arg Glu Arg
145 150 155 160

Ala Tyr Asn Arg Gly Ser Arg Lys Lys Asp Asp Tyr Met Glu Ser Gly
165 170 175

Thr Lys Lys Asp Asn Ser Ile Leu Glu Ile Arg Gly Pro Gly Leu Gln
180 185 190

Met Leu Pro Ile Asn Pro Tyr Arg Ala Lys Glu Glu Tyr Val Val His
195 200 205

```
Thr Ile Phe Pro Ser Asn Gly Ser Ser Leu Cys Lys Ala Thr His Thr
    210                 215                 220

Ile Gly Tyr Gly Thr Thr Arg Gly Tyr Arg Asp Gly Gly Ile Pro Asp
225                 230                 235                 240

Ile Asp Tyr Ser Tyr Thr
                245
```

<210> 62
<211> 378
<212> PRT
<213> Homo sapiens

<400> 62

```
Ile Ser Asn Asn Gln Leu Arg Met Leu Thr Gln Gly Val Phe Asp Asn
  1               5                  10                  15

Leu Ser Asn Leu Lys Gln Leu Thr Ala Arg Asn Asn Pro Trp Phe Cys
            20                  25                  30

Asp Cys Ser Ile Lys Trp Val Thr Glu Trp Leu Lys Tyr Ile Pro Ser
        35                  40                  45

Ser Leu Asn Val Arg Gly Phe Met Cys Gln Gly Pro Glu Gln Val Arg
    50                  55                  60

Gly Met Ala Val Arg Glu Leu Asn Met Asn Leu Leu Ser Cys Pro Thr
65                  70                  75                  80

Thr Thr Pro Gly Leu Pro Leu Phe Thr Pro Ala Pro Ser Thr Ala Ser
                85                  90                  95

Pro Thr Thr Gln Pro Pro Thr Leu Ser Ile Pro Asn Pro Ser Arg Ser
            100                 105                 110

Tyr Thr Pro Pro Thr Pro Thr Thr Ser Lys Leu Pro Thr Ile Pro Asp
        115                 120                 125

Trp Asp Gly Arg Glu Arg Val Thr Pro Pro Ile Ser Glu Arg Ile Gln
    130                 135                 140

Leu Ser Ile His Phe Val Asn Asp Thr Ser Ile Gln Val Ser Trp Leu
145                 150                 155                 160

Ser Leu Phe Thr Val Met Ala Tyr Lys Leu Thr Trp Val Lys Met Gly
                165                 170                 175

His Ser Leu Val Gly Gly Ile Val Gln Glu Arg Ile Val Ser Gly Glu
            180                 185                 190

Lys Gln His Leu Ser Leu Val Asn Leu Glu Pro Arg Ser Thr Tyr Arg
        195                 200                 205

Ile Cys Leu Val Pro Leu Asp Ala Phe Asn Tyr Arg Ala Val Glu Asp
    210                 215                 220

Thr Ile Cys Ser Glu Ala Thr Thr His Ala Ser Tyr Leu Asn Asn Gly
225                 230                 235                 240

Ser Asn Thr Ala Ser Ser His Glu Gln Thr Thr Ser His Ser Met Gly
                245                 250                 255
```

```
Ser Pro Phe Leu Leu Ala Gly Leu Ile Gly Gly Ala Val Ile Phe Val
            260                 265                 270

Leu Val Val Leu Leu Ser Val Phe Cys Trp His Met His Lys Lys Gly
        275                 280                 285

Arg Tyr Thr Ser Gln Lys Trp Lys Tyr Asn Arg Gly Arg Arg Lys Asp
    290                 295                 300

Asp Tyr Cys Glu Ala Gly Thr Lys Lys Asp Asn Ser Ile Leu Glu Met
305                 310                 315                 320

Thr Glu Thr Ser Phe Gln Ile Val Ser Leu Asn Asn Asp Gln Leu Leu
                325                 330                 335

Lys Gly Asp Phe Arg Leu Gln Pro Ile Tyr Thr Pro Asn Gly Gly Ile
            340                 345                 350

Asn Tyr Thr Asp Cys His Ile Pro Asn Asn Met Arg Tyr Cys Asn Ser
        355                 360                 365

Ser Val Pro Asp Leu Glu His Cys His Thr
    370                 375
```

<210> 63
<211> 338
<212> PRT
<213> Gallus gallus

<400> 63

```
Val His Ser Val Trp Thr Arg Thr Val Arg Gln Val Tyr Asn Glu Leu
  1               5                  10                  15

Asp Pro Glu His Trp Ser His Tyr Thr Phe Glu Cys Pro Gln Glu Cys
             20                  25                  30

Phe Cys Pro Pro Ser Phe Pro Asn Ala Leu Tyr Cys Asp Asn Lys Gly
         35                  40                  45

Leu Lys Glu Ile Pro Ala Ile Pro Ala Arg Ile Trp Tyr Leu Tyr Leu
     50                  55                  60

Gln Asn Asn Leu Ile Glu Thr Ile Ser Glu Lys Pro Phe Val Asn Ala
 65                  70                  75                  80

Thr His Leu Arg Trp Ile Asn Leu Asn Lys Asn Lys Ile Thr Asn Asn
                 85                  90                  95

Gly Ile Glu Ser Gly Val Leu Ser Lys Leu Lys Arg Leu Leu Tyr Leu
             100                 105                 110

Phe Leu Glu Asp Asn Glu Leu Glu Glu Val Pro Ala Pro Leu Pro Val
         115                 120                 125

Gly Leu Glu Gln Leu Arg Leu Ala Arg Asn Lys Ile Ser Arg Ile Pro
     130                 135                 140

Glu Gly Val Phe Ser Asn Leu Glu Asn Leu Thr Met Leu Asp Leu His
145                 150                 155                 160

Gln Asn Asn Leu Leu Asp Ser Ala Leu Gln Ser Asp Thr Phe Gln Gly
```

```
                165                 170                 175

Leu Asn Ser Leu Met Gln Leu Asn Ile Ala Lys Asn Ser Leu Lys Lys
            180                 185                 190

Met Pro Leu Ser Ile Pro Ala Asn Thr Leu Gln Leu Phe Leu Asp Asn
        195                 200                 205

Asn Ser Ile Glu Val Ile Pro Glu Asn Tyr Phe Ser Ala Ile Pro Lys
    210                 215                 220

Val Thr Phe Leu Arg Leu Asn Tyr Asn Lys Leu Ser Asp Asp Gly Ile
225                 230                 235                 240

Pro Pro Asn Gly Phe Asn Val Ser Ser Ile Leu Asp Leu Gln Leu Ser
                245                 250                 255

His Asn Gln Leu Thr Lys Ile Pro Pro Ile Asn Ala His Leu Glu His
            260                 265                 270

Leu His Leu Asp His Asn Arg Ile Lys Ser Val Asn Gly Thr Gln Ile
        275                 280                 285

Cys Pro Val Ser Ile Ala Val Ala Glu Asp Tyr Gly Leu Tyr Gly Asn
    290                 295                 300

Ile Pro Arg Leu Arg Tyr Leu Arg Leu Asp Gly Asn Glu Ile Gln Pro
305                 310                 315                 320

Pro Ile Pro Leu Asp Ile Met Ile Cys Phe Gln Leu Leu Gln Ala Val
                325                 330                 335

Val Ile
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<210> 64
<211> 326
<212> PRT
<213> Bos taurus

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<400> 64
Pro Tyr Glu Pro Tyr Pro Thr Gly Glu Glu Gly Pro Ala Tyr Ala Tyr
  1               5                  10                  15

Gly Ser Pro Pro Gln Pro Glu Pro Arg Asp Cys Pro Gln Glu Cys Asp
             20                  25                  30

Cys Pro Pro Asn Phe Pro Thr Ala Met Tyr Cys Asp Asn Arg Asn Leu
         35                  40                  45

Lys Tyr Leu Pro Phe Val Pro Ser Arg Met Lys Tyr Val Tyr Phe Gln
     50                  55                  60

Asn Asn Gln Ile Ser Ser Ile Gln Glu Gly Val Phe Asp Asn Ala Thr
 65                  70                  75                  80

Gly Leu Leu Trp Ile Ala Leu His Gly Asn Gln Ile Thr Ser Asp Lys
                 85                  90                  95

Val Gly Lys Lys Val Phe Ser Lys Leu Arg His Leu Glu Arg Leu Tyr
            100                 105                 110
```

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Leu Asp His Asn His Leu Thr Arg Ile Pro Ser Pro Leu Pro Arg Ser
        115                 120                 125

Leu Arg Glu Leu His Leu Asp His Asn Gln Ile Ser Arg Val Pro Asn
    130                 135                 140

Asn Ala Leu Glu Gly Leu Glu Asn Leu Thr Ala Leu Tyr Leu His His
145                 150                 155                 160

Glu Ile Gln Glu Val Gly Ser Ser Met Lys Gly Leu Arg Ser Leu Ile
                165                 170                 175

Leu Leu Asp Leu Ser Tyr Asn His Leu Arg Lys Val Pro Asp Gly Leu
            180                 185                 190

Pro Ser Ala Leu Glu Gln Leu Tyr Leu Glu His Asn Asn Val Phe Ser
        195                 200                 205

Val Pro Asp Ser Tyr Phe Arg Gly Ser Pro Lys Leu Leu Tyr Val Arg
    210                 215                 220

Leu Ser His Asn Ser Leu Thr Asn Asn Gly Leu Ala Ser Asn Thr Phe
225                 230                 235                 240

Asn Ser Ser Ser Leu Leu Glu Leu Asp Leu Ser Tyr Asn Gln Leu Gln
                245                 250                 255

Lys Ile Pro Pro Val Ser Thr Asn Leu Glu Asn Leu Tyr Leu Gln Gly
            260                 265                 270

Asn Arg Ile Asn Glu Phe Ser Ile Ser Ser Phe Cys Thr Val Val Asp
        275                 280                 285

Val Met Asn Phe Ser Lys Leu Gln Val Gln Arg Leu Asp Gly Asn Glu
    290                 295                 300

Ile Lys Arg Ser Ala Met Pro Ala Asp Ala Pro Leu Cys Leu Arg Leu
305                 310                 315                 320

Ala Ser Leu Ile Glu Ile
                325
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